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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,731	05/14/2001	Stephen M. Allen	BB1171 USDIV	1564

23906 7590 05/14/2002

E I DU PONT DE NEMOURS AND COMPANY
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WILMINGTON, DE 19805

EXAMINER

MONSHIPOURI, MARYAM

ART UNIT	PAPER NUMBER
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1652

DATE MAILED: 05/14/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/854,731

Applicant(s)
Allen et al.

Examiner
Maryam Monshipouri

Art Unit
1652



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-41 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5 6) ☐ Other:

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DETAILED ACTION

Claims 31-41 are under examination on the merits. Claims 1-30 are canceled.

Priority

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)). Applicant is advised to refer to the parent utility application now U.S. patent 6,262,345.

Information Disclosure Statement

1. The information disclosure statement filed 6/18/01 has been considered but the examiner could not initial the 1449 form because examiner initial box has been lined through by someone other than the examiner at the time of filing. If applicant wishes to have the cited references published on the face of the patent which will issue upon allowance of this applicant he/she is advised to provide a clean unsigned copy of said IDS in response to this office action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 31-41 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one

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skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant characterizes his/her product as a sequence encoding calcium dependent phosphorylase kinase. However, the specification does not guide the skilled artisan as to how said characterization is done. A thorough sequence search of claimed DNA sequences in commercial databases reveals that many sequences of high (85% or higher) structural homology to SEQ ID NO:3-4 are merely defined as calcium dependent protein kinases. No citation with high structural homology to SEQ ID NO:3-4 refer to their products as phosphorylase kinases.

The prior art further indicates that phosphorylase kinases are a large but distinct family of kinases some of which are calcium dependent. If applicant wishes to define the expression product of his/her DNA sequences as phosphorylase kinases, he/she is advised to provide the criteria (structural comparison with consensus phosphorylase kinase motifs, subunits etc.) upon which his/her sequences are categorized as calcium dependent phosphorylase kinases. In the absence of such information it may be more reasonable to refer to claimed DNA sequences as those encoding calcium dependent protein kinases, because no evidence of record supports the fact that said sequences are capable of encoding calcium dependent phosphorylase kinases.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
5. Claims 31, 34-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu et al.

(Planta, 199, 18-24, 1996, cited in the IDS). Lu teaches a DNA sequence encoding a calcium-calmodulin dependent protein kinase found in maize seeds which encodes a product having 87.8% homology to SEQ ID NO:4 of this invention (see the attached alignment). Said homology is very close to 90%. Considering the fact that percent homology is a function of search parameters chosen and can increase or decrease up to 5% upon altering alignment parameters, it is reasonable to conclude that the sequence of Lu meets the limitations of claim 31. Lu also teaches a pBluescript plasmid comprising said CaM kinase encoding gene and bacteria transformed with said gene (see Materials and Methods section), wherein said plasmid can be considered to be a chimeric gene comprising claimed nucleic acids attached to a regulatory sequence (anticipating claims 35-38). Additionally, Lu discloses methods of producing maize which results from transformation of a plant seed with said gene, followed by regeneration of said seed as a plant wherein said gene can be found to be expressed in root tips thereof, anticipating claims 39-40.

6. *Allowable Subject Matter*

Upon applicant's overcoming the written description rejection cited above, SEQ ID NO:3 can become allowable. This is because said sequence is free of prior art and the prior art does not teach or suggest such specifically claimed DNA sequence. Thus, said sequence is also non-obvious.

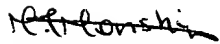
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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Maryam Monshipouri, Ph.D. whose telephone number is (703) 308-1083.

The Examiner can normally be reached daily from 8:30 A.M. to 5:00 P.M.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Dr. P. Achutamurthy, can be reached at (703) 308-3804. The OFFICIAL fax number for Technology Center 1600 is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.



Maryam Monshipouri, Ph.D.

Patent Examiner